Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1   **Claim 1 (currently amended):** A location information

2   transmission method for reporting on-road location information

3   on a digital map by an information transmission system,

4   ~~characterized in that~~ comprising the steps of:

5   transmitting on-road location information by an information

6   provider ~~reports, as~~, the on-road location

7   information[[;]] including: a string of coordinates line

8   information representing a road shape of a road section ~~including~~

9   ~~the on-road location~~ having a length determined depending on

10   difficulty of shape matching; additional information including

11   an information item selected from a group consisting of attribute

12   information on [[a]]said road section including ~~said~~ a road

13   location of said road section and detailed information on nodes

14   in said road section; ~~and relative information indicating said~~

15   ~~on-road location in said road section, and that~~

16   ~~a party that receives~~ receiving said on-road location

17   information by a portable navigation apparatus; and

18   ~~performs~~ performing shape matching to identify said road

19   section on a digital map of the portable navigation apparatus

20   based on the string of coordinates line information and the

21   additional information ~~and uses said relative data to identify~~

22   ~~the on-road location in said road section~~.

1   **Claim 2 (currently amended):** A location information

2 transmission method according to claim 1, ~~characterized in that~~

3 wherein a string of coordinates where coordinate data indicating

4 the positions of the nodes and interpolation points included in

5 said road section are arranged sequentially is used as said

6 string of coordinate information.

1   **Claim 3 (currently amended):** A location information

2 transmission method according to claim 2, ~~characterized in that~~

3 wherein an interpolation ~~points~~ point that ~~contribute~~ contributes

4 less to shape matching ~~are~~ is omitted ~~out of~~ from the

5 interpolation points included in said road section ~~in order to~~

6 ~~generate said string of coordinate information~~.

1   **Claim 4 (currently amended):** A location information

2 transmission method according to claim 3, ~~characterized in that~~

3 wherein ~~an~~ said interpolation point is omitted from said

4 interpolation points where a change in bearing is less than a

5 predetermined angle with respect to bearing from an adjacent

6 interpolation point or node and a distance from said

7 interpolation point or node is less than a predetermined distance

8 ~~in order to generate said string of coordinates information~~.

1   **Claim 5 (currently amended):** A location information

2 transmission method according to claim 2, ~~characterized in that,~~

3 ~~as~~ wherein said string of coordinate information[[,]] comprises

4   coordinate data of a member chosen from a group of nodes

5 and interpolation points included in said road section, the

6   coordinate data being ~~is~~ represented using absolute coordinates

7   and ~~that~~ data of members of nodes and interpolation points

8   excluding said chosen member, the data being ~~is~~ represented using

9   relative coordinates.

1   **Claim 6 (currently amended):** A location information

2   transmission method according to claim 1, ~~characterized in that~~

3   wherein said additional information includes at least one

4   information item chosen from a group consisting of road type

5   code, road number, toll highway code, number of traffic lanes,

6   regulation information, road width, number of connecting links

7   to a crossing node, and connection angle of each connecting link

8   to a crossing node.

1   **Claim 7 (currently amended):** A location information

2   transmission method according to claim 6, ~~characterized in that~~

3   wherein said additional information includes accuracy information

4   ~~on~~ relating to a digital map data used to generate the on-road

5   location information.

1   **Claim 8 (currently amended):** Method for thinning-out a

2   plurality of points representing a road shape by an information

3   transmission system, comprising steps of:

4   providing a string of coordinates defining said plurality

5   of points;

6   determining whether the bearing deviation, d_n, of an

7   interpolation point, P_n, of said string of coordinates from a

8   preceding interpolation point, P_{n-1}, of said string of coordinates

9   is smaller than a predetermined angle, α;

10   determining whether a distance, g_n, of the interpolation

11   point, P_n, from the preceding interpolation point, P_{n-1}, is ~~short~~

12   <u>shorter</u> than a predetermined length, β; and

13   omitting the interpolation point, P_n, from the string of

14   coordinates if both $d_n<\alpha$ and $g_n<\beta$ as determined in the determining

15   steps<u>;</u>

16   <u>transmitting the string of coordinates from which the</u>

17   <u>interpolation point, P_n, is omitted from the information</u>

18   <u>transmission system</u>.

1   **Claim 9 (previously presented):** The method of claim 8,

2   further comprising a step of incrementing the value of n by 1 and

3   then repeating the steps of determining and the step of omitting.

1   **Claim 10 (previously presented):** The method of claim 8

2   wherein each of the points is represented using relative

3   information based on one of the plurality of points.

1   **Claim 11 (new):** A location information transmission method

2   according to claim 1, wherein the on-road location information

3   includes relative information indicating an on-road location in

4   said road section, the method further comprising a step of

5   performing identifying the on-road location in the road section

6   using the relative information by the portable navigation

7   apparatus.